

A new *Eudorylas* Aczél, 1940 from Central Asia (Diptera: Pipunculidae)

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A new *Eudorylas* Aczél, 1940 from Central Asia (Diptera: Pipunculidae). - *Eudorylas manasi* Kehlmaier sp. n. is described from a specimen collected in the eastern part of the Kyrgyz Republic. The male holotype and its genitalia are figured. The species is briefly compared to other members of the *Eudorylas fascipes* species group of the Palaearctic and incorporated in an existing identification key. The pipunculid species presently recorded from the Kyrgyz Republic are listed.

Keywords: Diptera - Pipunculidae - *Eudorylas* - new species - Kyrgyz Republic - Palaearctic.

INTRODUCTION

Pipunculidae, commonly known as big-headed flies, are traditionally being considered a taxonomic difficult group of cyclorhaphan Diptera. However, substantial progress could be achieved during the last three decades with many genera or tribes being systematically revised on a regional or world scale. Whereas in the mid 1980s some 700 species were known (Skevington & De Meyer, 2004), this number now stands at 1.400 (Skevington, unpublished database). The rise in species numbers is due to fact that authors set their focus on A) regions previously neglected, and B) the structure of the male genital apparatus as the main and in many instances sole feature for identifying and separating species (besides the increasing importance of DNA barcodes). Today, this knowledge of the suitability of different genital features for species circumscription is well-grounded and, based on a specialist's expertise, also allows the erection of new taxa based on singletons only. In the case of the Eudorylini, it is the structure of the phallic guide, phallus and surstyli which essentially are necessary for the identification of a specimen.

MATERIAL AND METHODS

The material was collected by Dr. Valery A. Korneyev (Kiev) and Dr. Bernhard Merz (Geneva) and subsequently deposited at the Muséum d'Histoire Naturelle Genève (MHNG).

The descriptive part, including morphological terminology and drawings, follows previous works (Kehlmaier, 2005a, 2005b). However, in contrast to the terms 'inner' and 'outer' previously applied to differentiate between the position of surstyli,

gonopods and sides of the epandrium, the terms 'left' and 'right' are used in accordance with Skevington (e.g. 2001, 2002), representing the actual morphological location of these structures.

The following ratios and abbreviations are used in the descriptive part of the study: LF:WF – length of flagellum to its width; F:EM:V – frons length to length of eyes meeting to vertex length; LW:MWW – length of wing to max. width of wing; LS:LTC – length of pterostigma to length of third costal segment; LTC:LFC – length of third costal segment to length of fourth costal segment; MLE:MWE – max. length of epandrium to max. width of epandrium (viewed dorsally).

TAXONOMIC RESULTS

Eudorylas manasi Kehlmaier sp. n.

TYPE MATERIAL: Holotype, ♂, Kyrgyz Republic, Sary Dzhaz River Basin, Kayingdy Kattah Mountain Ridge, 41°57'34.14"N 79°8'7.01"E, 2550–2600m, 8.VII.1994, leg. V. Korneyev, coll. MHNG.

LOCUS TYPICUS: The specimen was collected in the eastern most part of the country in the Sary Dzhaz River Basin in the Kayingdy Kattah Mountain Ridge which belongs to the Central Tien Shan Mountains. The locality can be characterized as a dry steppe with maximum day temperatures at 16–21°C and stony or poor soils. Vegetation is composed of few Gramineae grasses, some *Artemisia*, *Aster*, *Limonium*, *Saussurea*, *Youngia* plus willow shrubs (*Salix*) and birches (*Betula*) along streams (Korneyev pers. comm.).

ETYMOLOGY: The taxon is named after the eponymous hero of the Epic of Manas, a traditional poem of the Kyrgyz people consisting of approximately 500.000 lines. Besides, Manasi is also a Hindi female forename.

DESCRIPTION (Male)

Body length: About 3.9 mm.

Head (Figs 1–2): Face dark, silver-grey pollinose. Scape dark, with one short upper bristle. Pedicel dark, with two short upper bristles and one short lower bristle. Flagellum dark yellow, tapering and grey pollinose (LF:WF=2.6). Arista dark, flattened, with thickened base. Eyes meeting for 13 facets. F:EM:V=1:1.1:0.8. Frons dark, silver-grey pollinose. Vertex dark, lacking pollinosity. Occiput dark and grey pollinose, but with a whiff of faint brownish pollinosity intermingled in upper half.

Thorax (Figs 1–2): Pleura, prescutum, scutum and scutellum dark. Pleura grey pollinose. Postpronotal lobe yellow, weakly grey pollinose and with four postpronotal hairs along upper margin. Prescutum and scutum narrowly grey pollinose in anterior quarter, posterior fifth and narrowly along lateral margins, otherwise brown pollinose and with two uniseriate dorsocentral rows of hair and some supra-alar hairs. Scutellum dorsocentrally brown pollinose, otherwise grey pollinose and with approximately ten hairs along posterior margin (up to 0.06 mm). Subscutellum silver-grey pollinose.

Wing: Length: 4.5 mm. LW:MWW=3.9. Wing almost entirely covered with microtrichia. Only small basal cells of wing, e.g., bc, basal quarter of c, very beginning of r1 and middle part of sc with microtrichia absent or reduced. Pterostigma complete (LS:LTC=1.0). LTC:LFC=1.1. r-m reaches dm shortly before one third of the cell's length. M1 gently undulating.



FIG. 1
Left lateral view of male holotype of *E. manasi* sp. n.



FIG. 2
Right dorsolateral view of head and thorax of male holotype of *E. manasi* sp. n.

Halter: Length: 0.5 mm. Base and knob dark. Stem narrowly white.

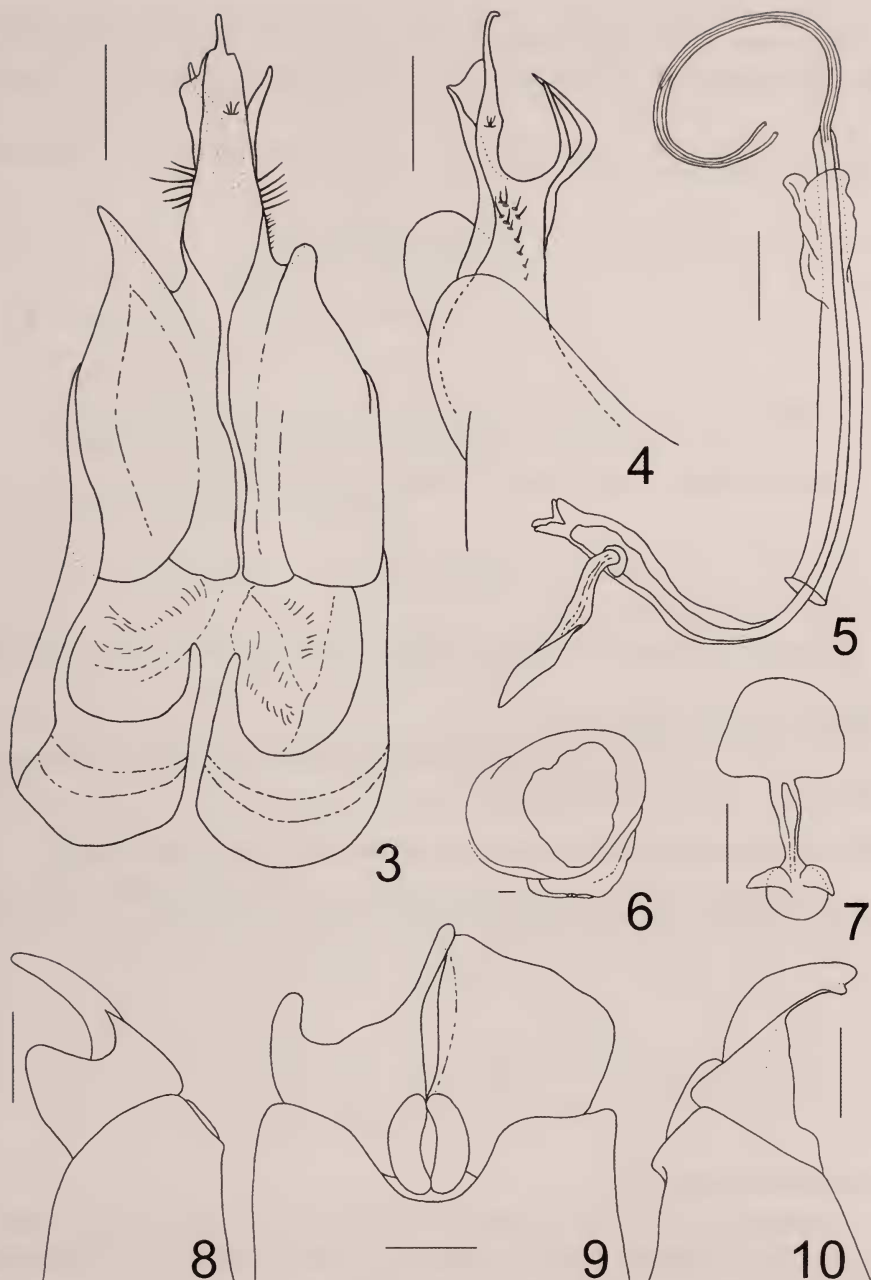
Legs (Fig. 1): Coxae dark, grey pollinose and with a yellow anteroapical margin on front and mid coxae. Mid coxa with one strong flattened dark anterior bristle and two shorter hairs on inner apical corner. Trochanters brownish-yellow, partly grey pollinose. Hind trochanter with about 4 short hairs anteroventrally. Femora dark, distinctly yellow at apices, grey pollinose except hind femur shining posteroventrally. Mid femur bearing two ventral rows of small peglike spines in apical two thirds. Front femur with posteroventral row of such spines in apical two thirds. Hind femur without such distinct ventral spines. Tibiae yellow and entirely grey pollinose, but ventrally in apical half brownish. Front and mid tibiae with small apical spines, as long as pulvilli. Hind tibia with a wrinkled indentation midanteriorly bearing no prominent spines or hairs. Tarsi yellowish and weakly grey pollinose, but distitarsus dorsally brown. Pulvilli as long as (fore leg) or slightly shorter (mid and hind leg) than distitarsi.

Abdomen (Fig. 1): Ground colour dark. Tergite 1 with five dark lateral bristles (up to 0.14 mm). Tergite 1 entirely grey pollinose. Tergite 2 to 5 laterally grey pollinose, extending onto dorsal surface along posterior margin and meeting (broadly so on tergite 2 and 5), otherwise brown pollinose. Syntergosternite 8 dark. Membranous area rather large and ovate, broadest in upper half, placed slightly to the right and caudally directed (Fig. 6). Sternites dark, grey pollinose.

Genitalia: Genital capsule dorsal view: Epandrium distinctly paler than tergites and longer than wide (MLE:MWE=1.2). Surstyli of the same colour as epandrium and asymmetrical (Fig. 9). Right surstylus deeply scythe-shaped with a long inner finger-like projection, left surstylus of triangular shape. Genital capsule ventral view: Gonopods asymmetric, left one of medium size, right one small (Fig. 3). Phallus trifold, presumably all ejaculatory ducts of equal length (one ejaculatory duct is partly missing) and circular (Fig. 5). Phallic guide rather long, narrow and pointed, with lateral hairs in its middle (Fig. 3). Dorsal projections and hyaline ventral lobe somewhat visible but best seen from lateral view (see below). Subepandrial sclerite with few scattered inconspicuous hairs. Genital capsule lateral view: Left side of epandrium without a projecting ventral lobe but with a blunt angle (Fig. 10). Left surstylus distinctly convex dorsally (Fig. 10). Right surstylus as in Fig. 8. Phallic guide dorso-medially with two distinctive rather symmetric upcurved hooklike projections and a hyaline apical lobe on its left side (Fig. 4). Ejaculatory apodeme spade-shaped (Fig. 7).

FEMALE: unknown.

REMARKS: The species is placed within the *Eudorylas fascipes* species group as defined by Kehlmaier (2005a): Taxa with predominantly yellow postpronotal lobe and base of hind femur, the latter at least anteroventrally; males with a distinct dorsal projection in the shape of a lobe, nose, hook etc. on their phallic guide emerging from the middle part; left surstylus of triangular shape; female with distinctly bilobed ovipositor's base. In Europe, this group comprises nine rather common taxa. *Eudorylas manasi* sp. n. can be readily separated by the shape of its genitalia, most striking by the lateral shape of the phallic guide with its upcurved dorsomedial hooks but surstyli, gonopods and membranous area of syntergosternite 8 provide additional diagnostic features. For genital illustrations of the nine European taxa see Kehlmaier (2005a). Concerning the Eastern Palearctic (Collin, 1941; Kozánek, 1988, 1992; Kozánek &



FIGS 3-10

Male genitalia of holotype of *E. manasi* sp. n. (3) Phallic guide, gonopods and hypandrium in ventral view. (4) Phallic guide and gonopods in lateral view from right side. (5) Phallus, sperm pump and ejaculatory apodeme in ventral view (one ejaculatory duct partly missing). (6) Syntergosternite 8 in caudal view. (7) Ejaculatory apodeme. (8) Right surstylus in lateral view. (9) Surstyli in strictly dorsal view. (10) Left surstylus in lateral view. Scale bars = 0.1 mm.

Kwon, 1991; Kuznetsov, 1990a, 1990b, 1993, 1994; Morakote *et al.*, 1990; Yang & Xu, 1989, 1996; Xu & Yang, 1990), only *Eudorylas duocollis* Morakote & Yano, 1990 from Japan, and known from the female sex only, might also be assigned to this group.

ADDENDA TO THE IDENTIFICATION KEY OF MALE EUDORYLINI PROVIDED IN KEHLMAIER (2005A: 57FF) STARTING FROM COUPLET 40

- 40 Ducts of phallus coiled to an almost complete circle (Fig. 5) 40a
 40* Ducts of phallus shorter, at maximum semi-circular 41
 40a Left gonopod larger than right one (Fig. 3). Phallic guide viewed laterally, with two upcurved dorsomedial hooks (Fig. 4). Membranous area of syntergosternite 8 large (Fig. 6) . . . *Eudorylas masani* Kehlmaier sp. n.
 40a* Left gonopod smaller than right one (see Fig. 36a in Kehlmaier (2005a)). Phallic guide viewed laterally, with two small triangular dorsomedial projections (see Fig. 36b in Kehlmaier (2005a)). Membranous area of syntergosternite 8 small (see Fig. 36e in Kehlmaier (2005a))
 *Eudorylas terminalis* (Thomson, 1870)

ADDITIONAL FAUNISTIC RECORDS

Chalarus brevicaudis Jervis, 1992

MATERIAL STUDIED: 1 ♂ 1 ♀, Kyrgyz Republic, 11km N Tas Kumyr, 900m, 22.V.1994, leg. B. Merz, coll. MHNG.

Chalarus spurius (Fallén, 1816)

MATERIAL STUDIED: 2 ♂, Kyrgyz Republic, Kara-Arthsa valley, 35km ESE Dzhambul, 1400m, 4.V.1994, leg. B. Merz, coll. MHNG.

PIPUNCULIDAE PRESENTLY KNOWN FROM THE KYRGYZ REPUBLIC

According to De Meyer (1996), De Meyer *et al.* (2000), Kehlmaier (2005) and this study, the following 13 Pipunculidae species have been recorded from the Kyrgyz Republic so far, representing approximately one tenth of the expected diversity: *Chalarus brevicaudis*, *C. spurius*, *Eudorylas auctus* Kehlmaier, 2005; *E. fuscus* (Zetterstedt 1844), *E. tshatkalensis* Kuznetsov, 1990; *Dorylomorpha albitarsis* (Zetterstedt, 1844); *D. extricata* (Collin, 1937); *D. incognita* (Verrall, 1901); *D. spinosa spinosa* Albrecht, 1979; *D. tanasijtshuki* Albrecht, 1990; *Tomosvaryella freidbergi* De Meyer, 1995 and *T. kirghizorum* Kuznetsov, 1993.

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